

**Notice of Allowability**

Application No.

10/608,228

Examiner

Wesley D. Markham

Applicant(s)

TAO ET AL.

Art Unit

1762

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the 9/27/2005 response to the Ex parte Quayle action.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2 total
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

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## **DETAILED ACTION / ALLOWANCE**

### ***Response to Amendment***

1. Acknowledgement is made of the amendment filed by the applicant on 9/27/2005, in which the specification of the instant application was amended, twelve (12) replacement sheets of drawings were filed, Claim 20 was amended, and Claims 21 – 40 were canceled. **Claims 1 – 20** remain pending in U.S. Application Serial No. 10/608,228, and an Office action on the merits follows.

### ***Information Disclosure Statement***

2. As previously noted, the IDS filed by the applicant on 8/2/2005 was not considered because it lacked the 1.17(p) fee required for an IDS filed after prosecution on the merits is closed (e.g., after an Ex parte Quayle action). However, the applicant filed an identical IDS on 9/27/2005 along with the required statement and fee. This IDS is acknowledged, and the references listed thereon have been considered as indicated on the attached copy of the PTO-1449 form.

### ***Drawings***

3. The twelve (12) replacement sheets of drawings filed by the applicant on 9/27/2005 are acknowledged and approved by the examiner. The aforementioned replacement sheets correct the informalities noted by the examiner in the Ex parte Quayle action. Please note that the twelve (12) replacement sheets filed on 9/27/2005 replace all of the originally filed drawings / sheets.

***Observations***

4. Please note that the amendments to the specification (i.e., to correct a spelling error and to provide proper antecedent basis for the claimed subject matter) filed on 9/27/2005 are sufficient to correct the informalities noted by the examiner in the Ex parte Quayle action. Also, the amendment to Claim 20 to clarify a grammatical error is sufficient to correct the informality noted by the examiner in the Ex parte Quayle action.

***Allowable Subject Matter***

5. Claims 1 – 20 are allowed.
6. The following is an examiner's statement of reasons for allowance: As embodied by independent Claim 1, the claimed method is drawn to preparing an optical fiber for use as a transducer in a moisture sensor. The method comprises polishing the two ends of an optical fiber, removing the cladding layer from a portion of the optical fiber by heating, soaking the portion in a first solution to wash off any organic material sticking on the surface of the portion of the optical fiber, soaking the portion in a second solution until surface hydroxyl groups of the portion are activated, and coating the portion of the optical fiber with a porous sol-gel silica solution. A summary of the closest prior art of record follows. Miyata (JP 01-193628 A) teaches producing an optical fiber moisture sensor by removing the cladding from portions of the fiber (e.g., by stripping) and then forming a porous SiO<sub>2</sub> layer (e.g., by pyrolysis)

on the aforementioned portions, and Tsutsui et al. (JP 63-265140 A) teaches a similar method of making an optical fiber humidity sensor. Badini et al. ("Sol-gels with fiber-optic chemical sensor potential: Effects of preparation, aging, and long-term storage", 1995), Goldstein (USPN 6,819,811), Farquharson et al. (USPN 6,623,977), Noire et al. (US 2002/0182740 A1), Watkins et al. (USPN 6,241,948), Wicks et al. (USPN 5,637,507), Ronnekleiv et al. (US 2002/0041724 A1), and Skutnik (USPN 6,810,184) all teach optical fiber-based probes and/or sensors that comprise a porous silica / sol-gel coating, as well as methods of making the same. However, the prior art of record, alone or taken collectively, does not teach or reasonably suggest the combination of steps required by independent Claim 1 (i.e., polishing both of the optical fiber ends, removing the cladding layer from a portion of the optical fiber by heating, soaking the portion in a first solution to wash off any organic material sticking on the surface of the portion of the optical fiber, and soaking the portion in a second solution until surface hydroxyl groups of the portion are activated) in the context of coating at least the portion of the optical fiber with a porous silica sol-gel solution. Therefore, independent Claim 1 is allowed. Claims 2 – 20 are all process claims that depend from independent process Claim 1 and are therefore also allowed.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D. Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WDM

Wesley D Markham  
Examiner  
Art Unit 1762



**TIMOTHY MEEKS**  
**SUPERVISORY PATENT EXAMINER**